

## REMARKS/ARGUMENTS

In the Office Action of November 24, 2008, claims 1-18 are rejected. In response, claims 1-14 and 16 have been amended. Applicants hereby request reconsideration of the application in view of the claim amendments and the below-provided remarks.

### Claim Rejections under 35 U.S.C. 112

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In response, Applicants have amended claims 1-14 and 16 to correct informalities and/or remove reference characters. Additionally, Applicants have amended claims 8 and 16 to replace the term “a” with the term “as.”

As amended, claim 1 includes the phrase “simultaneously transmitting at least first and second signals,” which corresponds to the phrase “the at least first and second simultaneously transmitted signals” of claims 1 and 5. Amended claim 8 includes the phrase “simultaneously receiving at least first and second signals,” which corresponds to the phrase “the at least first and second simultaneously received signals” of claims 8 and 16. Thus, the phrase “the at least first and second simultaneously transmitted signals” of claims 1 and 5 and the phrase “the at least first and second simultaneously received signals” of claims 8 and 16 do carry clear meaning. As such, Applicants respectfully request that the rejections to claims 1-18 under 35 U.S.C. 112 be withdrawn.

### Claim Rejections under 35 U.S.C. 102 and 35 U.S.C. 103

Claims 1, 2, 7-9, 11, 14, 17 and 18 are rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Zhuang et al. (U.S. Pat. Pub. No. 2003/0123381 A1, hereafter “Zhuang”). Claims 3-5, 10 and 12 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Zhuang in view of Cudak et al. (U.S. Pat. Pub. No. 2005/0289256 A1, hereafter “Cudak”). Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Zhuang in view of Kwan et al. (U.S. Pat. Pub. No. 2003/0081692 A1, hereafter “Kwan”). Claims 15 and 16 are rejected under 35

U.S.C. 103(a) as allegedly being unpatentable over Zhuang in view of Currivan et al. (U.S. Pat. Pub. No. 2005/0141460 A9, hereafter “Currivan”).

In response, Applicants have amended claims 1-14 and 16. Applicants respectfully submit that the pending claims are patentable over Zhuang, Cudak, Kwan and Currivan for the reasons provided below.

#### Independent Claim 1

Claim 1 has been amended to remove reference characters. As amended, claim 1 recites:

“Transmitter for simultaneously transmitting at least first and second signals, the first signal being modulated according to a first modulation constellation, the second signal being modulated according to a second modulation constellation, wherein the transmitter is arranged to pre-code at least the first signal through a modification of the first modulation constellation so as to prevent a correlation between the at least first and second simultaneously transmitted signals.” (emphasis added)

Applicants respectfully assert Zhuang does not disclose that “*the transmitter is arranged to pre-code at least the first signal through a modification of the first modulation constellation so as to prevent a correlation between the at least first and second simultaneously transmitted signals*” (emphasis added) as recited in claim 1.

Zhuang discloses two orthogonal frequency division multiplexed modulators (23) and (24), see Fig. 2 and paragraph [0016]. In particular, Zhuang discloses that bits or symbols are processed by the two orthogonal frequency division multiplexed modulators (23) and (24) in accordance with existing orthogonal frequency division multiplex (OFDM) techniques. The Office Action states that the first modulation constellation of the orthogonal frequency division multiplexed modulator (23) is orthogonal to the second modulation constellation of the orthogonal frequency division multiplexed modulator (24). Applicants respectfully disagree. According to OFDM techniques, multiple sub-carriers are used to transmit data, where the sub-carriers are orthogonal to each other. The relationships between the modulation constellations of individual sub-carriers are not related to the orthogonal property of an OFDM system. Accordingly, Zhuang does not disclose that the modulation constellation of the orthogonal frequency division multiplexed modulator (23) is orthogonal to the modulation constellation of the

orthogonal frequency division multiplexed modulator (24). Therefore, Zhuang does not disclose that modification of any of the modulation constellation of the orthogonal frequency division multiplexed modulator (23) and the modulation constellation of the orthogonal frequency division multiplexed modulator (24) is performed to prevent a correlation between transmitted signals.

Because Zhuang does not disclose that “*the transmitter is arranged to pre-code at least the first signal through a modification of the first modulation constellation so as to prevent a correlation between the at least first and second simultaneously transmitted signals*” (emphasis added) as recited in claim 1, Zhuang does not disclose all of the limitations of claim 1. Thus, Applicants respectfully assert that claim 1 is not anticipated by Zhuang and now in the condition for allowance.

#### Dependent Claims 2-7 and 15-18

Claims 2-7 and 15-18 have been amended to overcome the claim rejections under 35 U.S.C. 112, second paragraph. Claims 2-7 and 15-18 depend from and incorporate all of the limitations of independent claim 1. Applicants respectfully assert that claims 2-7 and 15-18 are allowable at least based on an allowable claim 1.

#### Independent Claim 8

Claim 8 has been amended to overcome the claim rejection under 35 U.S.C. 112, second paragraph. Claim 8 includes similar limitations to claim 1. Because of the similarities between claim 1 and claim 8, Applicants respectfully assert that the remarks provided above with regard to claim 1 apply also to amended claim 8. Accordingly, Applicants respectfully assert that Zhuang does not disclose all of the limitations of claim 8. Thus, Applicants respectfully assert that claim 8 is not anticipated by Zhuang.

#### Dependent Claims 9-14

Claims 9-14 have been amended to overcome the claim rejections under 35 U.S.C. 112, second paragraph. Claims 9-14 depend from and incorporate all of the limitations of independent claim 8. Applicants respectfully assert that claims 9-14 are allowable at least based on an allowable claim 8.

## **CONCLUSION**

Applicants respectfully request reconsideration of the claims in view of the amendments and remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,

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